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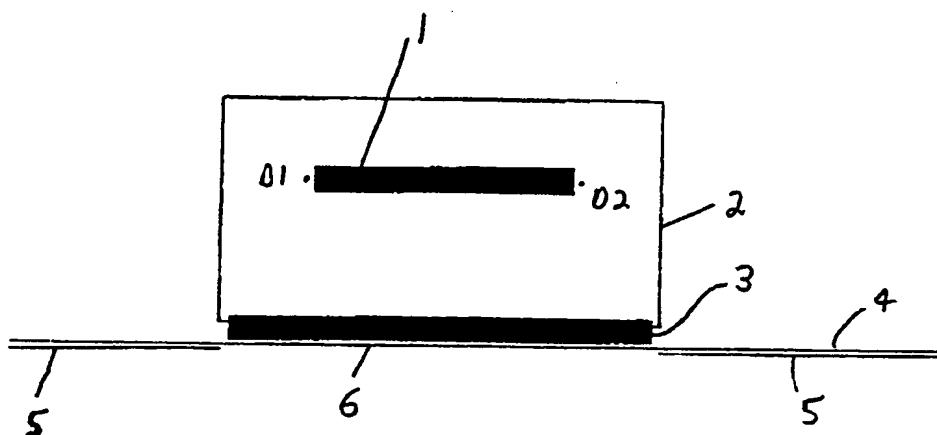
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## (54) Coin freed gaming or amusement apparatus.

(57) A coin-freed gaming or amusement apparatus comprises visual display means 1 and lens means 3 arranged over the visual display means and adapted to modify the appearance and/or apparent size of the display means. The use of a lens 3 enables the apparent size of the visual display 1 to be changed to a size suitable for the artwork 5 provided on the external fascia 4 of the apparatus. The lens may be a spherical lens or a Fresnel lens.

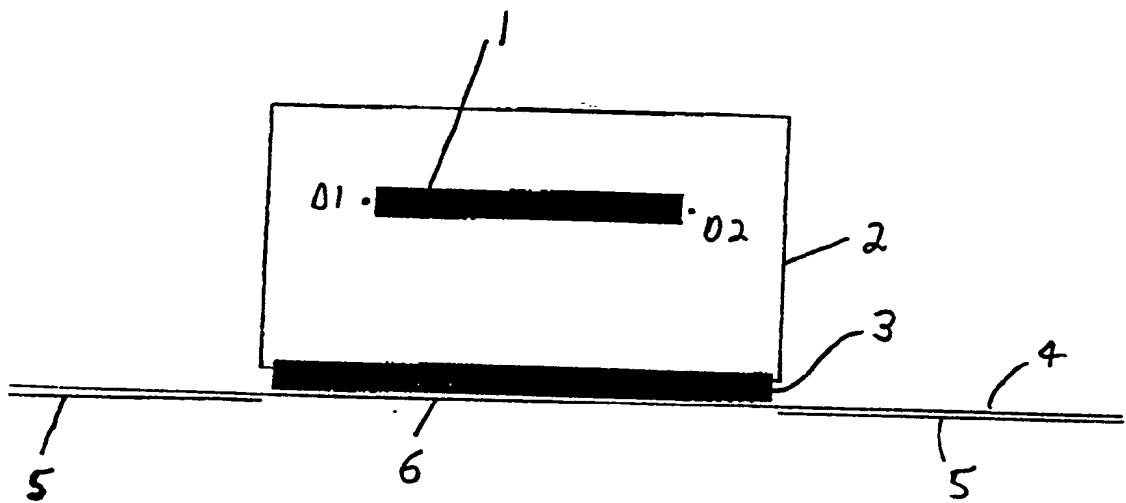
Figure 1



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Figure 1



$P_1$   $\cdots \cdots \cdots A$   $\circ$   $A \cdots \cdots \cdots P_2$

Coin Freed Gaming or Amusement Apparatus

5       The present invention relates to coin freed gaming or  
amusement apparatus, and more particularly, but not  
exclusively to such apparatus comprising a number of reels  
bearing symbols on their peripheral surfaces.

10      Such apparatus has been known for some considerable  
time. A coin is placed in the apparatus, and the reels  
made to spin, the final position of the reels determining  
whether or not a prize has been won. More recently,  
however, it has become common to incorporate in the  
apparatus visual display means, such as lamp, video or LED  
15      displays for the purposes, for example, of giving  
information about the game, or for purely decorative  
effect. Commonly the visual display means are controlled  
by microprocessor, so that they may be easily adapted to  
new models.

20      Apparatus designs, and in particular the game artwork  
provided on the external fascia of the apparatus, are  
updated frequently in order to maintain user interest.  
Whilst a designer has a certain amount of freedom in the  
layout of the artwork, it is largely designed around the  
25      visual display means.

      However, visual display means, such as lamps, LED  
displays or video screens, are generally available only in  
given standard sizes, which constrains the designer in  
producing artwork.

30      The present invention seeks to overcome this problem.  
In accordance with one aspect of the present invention,  
there is provided a coin-freed gaming or amusement  
apparatus comprising visual display means and lens means  
arranged over the visual display means and adapted to  
35      modify the appearance and/or apparent size of the display  
means.

      According to a second aspect of the present  
invention, there is provided a method of adapting the

artwork on the external fascia of a coin-free gaming or amusement apparatus which includes a visual display means, comprising: arranging the artwork on the external fascia of the apparatus; and arranging lens means over the visual display means to modify the appearance and/or apparent size of the display means, thereby to adapt the display image to fit the artwork.

Thus in accordance with one embodiment of the invention, a lens is placed over the visual display means, for example a video display or LED display, so as to change the apparent size of the display to that desired by the artwork designer. Typically the lens will, in use, be arranged behind or in the plane of a fascia panel of the apparatus, which carries the artwork. A transparent or translucent window may be left in the artwork for viewing the displayed image. Thus by the choice of an appropriate lens, a standard display may be adapted to fit a desired area of artwork. The size, shape and focal length of the lens can be chosen to suit any particular application and a lens can easily be changed when the apparatus is modified for new artwork. Thus the artwork need no longer be compromised by the size of the display, and can be readily updated simply by repeating the method of the present invention, using a new lens, if necessary.

Whilst in some embodiments the lens means may act solely to magnify or reduce uniformly the display image, in preferred embodiments it may act to modify the appearance, and/or the apparent position or orientation of the visual display to a player of the game moving in front of the apparatus. Thus in one embodiment the lens means may have a variable magnification across its width and be positioned so as to achieve this effect. In a particularly preferred embodiment, a spherical lens means may be used. Most preferably the lens means has the optical characteristics and is arranged such that the display always gives the impression of being generally face on to a player, irrespective of the player's position in front of the apparatus.

It will be appreciated that in the context of the present invention, the term "lens means" is intended to encompass any optical device capable of modifying a visual image by refraction, reflection or diffraction. In 5 particular, it is intended to encompass Fresnel lenses which may be used to great advantage in the present invention, since whilst they may be of a large area, they may be relatively thin, while still exhibiting the requisite optical properties.

10 In one embodiment, the visual display means are arranged in a light-tight enclosure, an open end of which is closed by the lens means.

15 In a preferred embodiment the apparatus is coin-freeed spinning reel gambling game. The display means preferably is electronically controlled and provides changeable information relating to the game and/or features to be played in the game in response to a winning event. The spinning reels are preferably mechanical reels having symbols on their peripheral surfaces. However in other 20 embodiments, the effect of spinning reels may be displayed graphically on visual display means.

25 A preferred embodiment of the invention will now be described by way of example, with reference to Figure 1 which shows, schematically, an arrangement of a visual display and lens in accordance with the invention.

With reference to Figure 1, a matrix LED display 1 is arranged in a light-tight box 2 having a Fresnel lens 3 arranged over an open end thereof. The box 2 is arranged behind a fascia panel 4 of a reel-type automatic gaming 30 machine. The fascia panel 4 carries artwork 5 on its surface, but a transparent aperture 6 is provided in the artwork so that a player 7, in front of the machine can view the display 1.

35 The optical characteristics of the lens 3 are chosen such that the display 1 is visible and in focus for a player 7 in front of the machine. Furthermore the lens 3 has the optical characteristics and is arranged in such a position whereby the display always appears generally face

ON to the player 7 as he or she moves in front of the machine, as indicated by the arrows A. In particular, the optical characteristics of the lens are such that a player 7 standing at any position between end positions P1 and P2 5 would perceive the edges D1 and D2 of the display to be of substantially the same size, whereby it would appear to the player that the display is always at right angles to him or her.

In a typical arrangement, the LED display 1 may have 10 a standard size of approximately 50mm x 150mm, while the lens 3 measures approximately 160mm x 250mm, has a strength of 4 diopter and is spaced approximately 70mm from the display 1.

In use, the artwork designer can simply design the 15 artwork 5 on the fascia panel 4 and then arrange a lens 3 having the appropriate optical characteristics over the visual display means 1 to modify the image display to fit it to the artwork. When the artwork is updated and changed, this process is simply repeated, using a different 20 lens if necessary to take account of the redesigned artwork.

It will be seen from the above that the present invention, at least in its preferred embodiments, allows 25 the inherent size limitations of visual displays to be overcome by the choice of an appropriate lens, which lens may also have optical characteristics to adapt the image of the display depending on a player's position in front of the machine.

Claims

1. A coin-freed gaming or amusement apparatus comprising visual display means and lens means arranged over the visual display means and adapted to modify the appearance and/or apparent size of the display means.  
5
2. Apparatus as claimed in claim 1, wherein said lens means acts to magnify or reduce uniformly the display image.  
10
3. Apparatus as claimed in claim 1 or 2, wherein said lens means acts to modify the appearance and/or the apparent position or orientation of the visual display to a player of the game moving in front of the apparatus.  
15
4. Apparatus as claimed in claim 3, wherein said lens means has a variable magnification across its width.  
20
5. Apparatus as claimed in claim 4, wherein said lens means is a spherical lens, or has the optical characteristics of a spherical lens.  
25
6. Apparatus as claimed in any preceding claim, wherein said lens means is a Fresnel lens.  
30
7. Apparatus as claimed in any preceding claim, wherein said lens means is arranged behind or in the plane of a fascia panel of the apparatus.  
35
8. Apparatus as claimed in claim 7, wherein a transparent or translucent window is left in the fascia panel for viewing the displayed image.
9. Apparatus as claimed in any preceding claim, wherein said visual display means is arranged in light-tight enclosure, an end of which is closed by said lens means.

10. A method of adapting the artwork on the external fascia of a coin-freed gaming or amusement apparatus which includes a visual display means, comprising:

5 arranging the artwork on the external fascia of the apparatus; and

arranging lens means over the visual display means to modify the appearance and/or apparent size of the display means, thereby to adapt the display image to fit the artwork.

10

11. A method as claimed in claim 10, further comprising arranging said lens means behind or in the plane of the fascia of the apparatus.

15 12. A method as claimed in claim 10 or 11, further comprising arranging said lens means to magnify or reduce uniformly the display image.

20 13. A method as claimed in claim 10, 11 or 12, further comprising arranging said lens means to modify the appearance and/or the apparent position or orientation of the visual display to a player of the game moving in front of the apparatus.

25 14. A method as claimed in claim 10, 11, 12 or 13, further comprising repeating the method whenever the artwork is to be modified or changed.

30 15. A method as claimed in claim 14, wherein the lens means is changed in order to adapt the display image to fit the new artwork.

35 16. A coin-freed gaming or amusement apparatus substantially as hereinbefore described with reference to the accompanying drawings.

17. A method of adapting the artwork on the external fascia of a coin-freed gaming or amusement apparatus

substantially as hereinbefore described with reference to  
the accompanying drawings.

Relevant Technical Fields		Search Examiner G NICHOLLS
(i) UK Cl (Ed.M) G4V (VAA VBH) G5C (CAC CDC)		Date of completion of Search 14 JANUARY 1994
(ii) Int Cl (Ed.5) G07F 17/34 G09F 19/12 19/14 19/18		Documents considered relevant following a search in respect of Claims :- 1-17
<b>Databases (see below)</b> (i) UK Patent Office collections of GB, EP, WO and US patent specifications. (ii) ONLINE DATABASE: WPI		

Categories of documents

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P: Document published on or after the declared priority date but before the filing date of the present application.

E: Patent document published on or after, but with priority date earlier than, the filing date of the present application.

&: Member of the same patent family; corresponding document.

Category	Identity of document and relevant passages		Relevant to claim(s)
X	EP 0086298 A2	(STARPOINT ELECTRICS) whole document	1, 2
X	WO 89/08304 A1	(CASSEL-SMITH) see especially Figure 5	1-3, 6
X	US 4944572	(YOUNG) see especially Figure 4	1
X	US 4834512	(AUSTIN) whole document	1, 2
X	US 3538632	(ANDERSON) whole document	1

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